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EXAMINER

MOORE JR, MICHAEL J

ART UNIT

PAPER NUMBER

2666

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/314,566

Applicant(s)

ACHILLES ET AL.

Examiner

Michael J. Moore, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 May 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed elements of claims **7-18** (classifier, modifier, comparator, discarder, congestion clip table, concatenator, computer readable program code means) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. The present disclosure of Figure 1 in the specification does not permit one of ordinary skill in the art to map each claimed element of claims **7-18** to Figure 1.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be

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notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to because Figures 1-3 contain handwritten labeling of elements. It is suggested by Examiner that formal drawings be submitted.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

Regarding claims **1 and 2**, claim **1** is directed to a packet discarding method as shown in Figure 5 while claim **2** is directed to a packet policing method as shown in Figure 4. Presently claim **2** is dependent upon claim **1**. There is presently no indication in the specification that these methods can be combined.

Regarding claims **3, 6, 9, 12, 15, and 18**, all of the claimed limitations of these claims are not disclosed in the specification. Therefore, a reasonable search for these limitations could not be performed.

Regarding claim **4**, the claimed limitations “modifying the data packet with a watermark (WM) indicator according to the availability of a system resource”, “comparing the ISC, WM and a drop preference (DP) indicator of the data packet to a committed information rate (CIR)”, and “discarding the packet if the DP exceeds the CIR” are not disclosed in the specification. Therefore, a reasonable search for these limitations could not be performed.

Regarding claims **4 and 5**, claim **4** is directed to a packet discarding method while claim **5** is directed to a packet policing method. Presently claim **5** is dependent upon claim **4**. There is presently no indication in the specification that these methods can be combined.

Regarding claims **7 and 8**, claim **7** is directed to a packet discarding apparatus while claim **8** is directed to a packet policing apparatus. Presently claim **8** is dependent upon claim **7**. There is presently no indication in the specification that these apparatuses can be combined.

Regarding claim **10**, the claimed limitations, "a second modifier logically coupled to the classifier to modify the data packet with a watermark (WM) indicator according to the availability of a system resource", "a comparator logically coupled to the modifier to compare the ISC, WM and a drop preference (DP) indicator of the data packet to a committed information rate (CIR)", and "a discarder logically coupled to the comparator to discard the packet if the DP exceeds the CIR" are not disclosed in the specification. Therefore, a reasonable search for these limitations could not be performed.

Regarding claims **10 and 11**, claim **10** is directed to a packet discarding apparatus while claim **11** is directed to a packet policing apparatus. Presently claim **11** is dependent upon claim **10**. There is presently no indication in the specification that these apparatuses can be combined.

Regarding claims **13 and 14**, claim **13** is directed to an article of manufacture used for discarding a packet while claim **14** is directed to an article of manufacture used for policing a packet. Presently claim **14** is dependent upon claim **13**. There is

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presently no indication in the specification that these articles of manufacture can be combined.

Regarding claim **16**, the claimed limitations, “computer readable program code means embodied in the computer usable medium for causing a computer to modify the data packet with a watermark (WM) indicator according to the availability of a system resource”, “computer readable program code means embodied in the computer usable medium for causing a computer to compare the ISC, WM and a drop preference (DP) indicator of the data packet to a committed information rate (CIR)”, and “computer readable program code means embodied in the computer usable medium for causing a computer to discard the packet if the DP exceeds the CIR” are not disclosed in the specification. Therefore, a reasonable search for these limitations could not be performed.

Regarding claims **16 and 17**, claim **16** is directed to an article of manufacture used for discarding a packet while claim **17** is directed to an article of manufacture used for policing a packet. Presently claim **17** is dependent upon claim **16**. There is presently no indication in the specification that these articles of manufacture can be combined.

Claim Objections

4. Claims **7-12** are objected to because of the following informalities:

Regarding claims **7-12**, the word “comparator” should be “comparator” in all instances.

Regarding claim **10**, on line 8, there is some confusion regarding the phrase "the modifier". It is uncertain which modifier (first modifier, second modifier) is being referred to.

Regarding claim **11**, on line 3, the terms "WM" and "DP" should be instantiated "watermark (WM) indicator" and "drop preference (DP) indicator" since these terms are not claimed in claim **7**. It is believed by Examiner that claims **11 and 12** should both depend on claim **10** rather than claim **7**. Appropriate correction is required.

Double Patenting

1. Applicant is advised that should claim **9** be found allowable, claim **12** will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim.

See MPEP § 706.03(k).

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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3. Claim 1 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of U.S. Patent No. 6,647,424 (Pearson et al.) ("Pearson"). Although the conflicting claims are not identical, they are not patentably distinct from each other due to the following correspondences.

Regarding claim 1, "classifying the data packet according to a type of service (TOS) indicator" corresponds to "classifying an internal service class (ISC) to the data packet according to a type of service (TOS)/precedence field" in claim 2 of Pearson. "Modifying the data packet with an internal service class (ISC) indicator according to the TOS indicator" corresponds to "adding a size value of the data packet to a data count for the ISC" in claim 2 of Pearson. "Comparing the ISC to a committed information rate (CIR)" corresponds to "comparing the ISC to a committed information rate (CIR)" in claim 2 of Pearson. Lastly, "discarding the packet if the ISC exceeds the CIR" corresponds to "discarding the data packet if the data count exceeds a burst rate being greater than the CIR" in claim 2 of Pearson.

Claim 1 differs from claim 2 of Pearson for the following reasons. Claim 1 does not claim "setting a drop preference bit (DP) for the data packet if the data count exceeds the CIR", "setting a watermark indicator (WM) for the data packet responsive to a congestion level of a buffer memory", or "concatenating the ISC, DP, and WM into a key for a lookup into a configurable congestion clip table and discarding the data packet responsive to the lookup into the configurable congestion clip table. Therefore, claim 1 merely broadens the scope of claim 2 of Pearson.

It has been held that the omission of an element and its function is an obvious expedient if the remaining elements perform the same function as before. See *In re Karlson*, 136 USPQ 184 (CCPA). Also note *Ex parte Rainu*, 168 USPQ 375 (Bd. App. 1969). The omission of a reference element whose function is not needed would be obvious to one skilled in the art.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims **1-18** are rejected under 35 U.S.C. 102(a) as being anticipated by Nichols et al. ("Nichols") (Reference "U" of PTO-892). Nichols teaches all of the limitations of the listed claims with the reasoning that follows.

Regarding claim 1, "a method for discarding a data packet" is anticipated by the discard method shown in Figure 5 of Nichols. "Classifying the data packet according to a type of service (TOS) indicator" is anticipated by the classification of arriving packets based on header matching as spoken of on page 5, lines 14-19 of Nichols. "Modifying the data packet with an internal service class (ISC) indicator according to the TOS indicator" is anticipated by the marking of packets according to service class spoken of on page 5, lines 17-25 of Nichols. "Comparing the ISC to a committed information rate (CIR)" is anticipated by the ensuring that DiffServ packet flows are in compliance with agreed-upon rates as spoken of on page 7, lines 4-5 of Nichols. Lastly, "discarding the

packet if the ISC exceeds the CIR" is anticipated by the discarding of non-compliant packets spoken of on page 7, lines 4-9 and shown in Figure 5 of Nichols.

Regarding claim 2, "finding an entry in a congestion clip table using the ISC as a key value and comparing the entry to the CIR" is anticipated by the ensuring that DiffServ packet flows are in compliance with agreed-upon rates as spoken of on page 7, lines 4-5 of Nichols.

Regarding claim 3, "analyzing a field of the data packet to determine a packet characteristic and assigning the TOS indicator based upon the packet characteristic" and "assigning the TOS indicator based upon the packet characteristic" is anticipated by the classification of arriving packets based on header matching as spoken of on page 5, lines 14-19 of Nichols.

Regarding claim 4, "a method for discarding a data packet" is anticipated by the discard method shown in Figure 5 of Nichols. "Classifying the data packet according to a type of service (TOS) indicator" is anticipated by the classification of arriving packets based on header matching as spoken of on page 5, lines 14-19 of Nichols. "Modifying the data packet with an internal service class (ISC) indicator according to the TOS indicator" is anticipated by the marking of packets according to service class spoken of on page 5, lines 17-25 of Nichols. "Modifying the data packet with a watermark (WM) indicator according to the availability of a system resource" is anticipated by the marking of packets according to service class spoken of on page 5, lines 17-25 of Nichols. "Comparing the ISC, WM and a drop preference (DP) indicator of the data packet to a committed information rate (CIR)" is anticipated by the ensuring that DiffServ packet

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flows are in compliance with agreed-upon rates as spoken of on page 7, lines 4-5 of Nichols. Lastly, "discarding the packet if the DP exceeds the CIR" is anticipated by the discarding of non-compliant packets spoken of on page 7, lines 4-9 and shown in Figure 5 of Nichols.

Regarding claim 5, "concatenating the ISC, WM and the DP into a key value, finding an entry in a congestion clip table (CCT) using the ISC as a key value, and comparing the entry to the CIR" is anticipated by the ensuring that DiffServ packet flows are in compliance with agreed-upon rates as spoken of on page 7, lines 4-5 of Nichols.

Regarding claim 6, "analyzing a field of the data packet to determine a packet characteristic and assigning the TOS indicator based upon the packet characteristic" and "assigning the TOS indicator based upon the packet characteristic" is anticipated by the classification of arriving packets based on header matching as spoken of on page 5, lines 14-19 of Nichols.

Regarding claim 7, "an apparatus for discarding a data packet" is anticipated by the Profile Meters shown in Figure 5. "A classifier to classify the data packet according to a type of service (TOS) indicator" is anticipated by the packet classifier shown in Figure 2 of Nichols. "A modifier logically coupled to the classifier to modify the data packet with an internal service class (ISC) indicator according to the TOS indicator" is anticipated by Markers 1-N shown in Figure 2 of Nichols. "A comparator logically coupled to the modifier to compare the ISC to a committed information rate (CIR)" is anticipated by the Profile Meters shown in Figure 5 of Nichols. Lastly, "a discarder

logically coupled to the comparator to discard the packet if the ISC exceeds the CIR" is anticipated by the Profile Meters shown in Figure 5 of Nichols.

Regarding claim 8, "a congestion clip table (CCT) having an entry indexed by the ISC, and a comparator logically coupled to the modifier to compare the entry to a committed information rate (CIR)" is anticipated by the Profile Meters shown in Figure 5 of Nichols.

Regarding claims 9 and 12, "an analyzer to analyze a field of the data packet to determine a packet characteristic and an assigner logically coupled to the analyzer to assign the TOS indicator based upon the packet characteristic" is anticipated by the classification of arriving packets by the packet classifier in Figure 2 based on header matching as spoken of on page 5, lines 14-19 of Nichols.

Regarding claim 10, "an apparatus for discarding a data packet" is anticipated by the Profile Meters shown in Figure 5. "A classifier to classify the data packet according to a type of service (TOS) indicator" is anticipated by the packet classifier shown in Figure 2 of Nichols. "A first modifier logically coupled to the classifier to modify the data packet with an internal service class (ISC) indicator according to the TOS indicator" is anticipated by Markers 1-N shown in Figure 2 of Nichols. "A second modifier logically coupled to the classifier to modify the data packet with a watermark (WM) indicator according to the availability of a system resource" is anticipated by Markers 1-N shown in Figure 2 of Nichols. "A comparator logically coupled to the modifier to compare the ISC, WM and a drop preference (DP) indicator of the data packet to a committed information rate (CIR)" is anticipated by the Profile Meters shown in Figure 5 of Nichols.

Lastly, "a discarder logically coupled to the comparator to discard the packet if the DP exceeds the CIR" is anticipated by the Profile Meters shown in Figure 5 of Nichols.

Regarding claim 11, "a concatenator to concatenate the ISC, WM and the DP into a key value, a congestion clip table (CCT) having an entry indexed by the key value, and a comparator logically coupled to the modifier to compare the entry to a CIR" is anticipated by the Profile Meters shown in Figure 5 of Nichols.

Regarding claim 13, "an article of manufacture for use in a computer system to discard a data packet" is anticipated by the Profile Meters shown in Figure 5.

"Computer readable program code means embodied in the computer usable medium for causing a computer to classify the data packet according to a type of service (TOS) indicator" is anticipated by the packet classifier shown in Figure 2 of Nichols.

"Computer readable program code means embodied in the computer usable medium for causing a computer to modify the data packet with an internal service class (ISC) indicator according to the TOS indicator" is anticipated by Markers 1-N shown in Figure 2 of Nichols. "Computer readable program code means embodied in the computer usable medium for causing a computer to compare the ISC to a committed information rate (CIR)" is anticipated by the Profile Meters shown in Figure 5 of Nichols. Lastly, "computer readable program code means embodied in the computer usable medium for causing a computer to discard the packet if the ISC exceeds the CIR" is anticipated by the Profile Meters shown in Figure 5 of Nichols.

Regarding claim 14, "computer readable program means embodied in the computer usable medium for causing a computer to find an entry in a congestion clip

table (CCT) using the ISC as a key value and computer readable program means embodied in the computer usable medium for causing a computer to compare the entry to the CIR” is anticipated by the Profile Meters shown in Figure 5 of Nichols.

Regarding claim 15, “computer readable program code means embodied in the computer usable medium for causing a computer to analyze a field of the data packet to determine a packet characteristic and computer readable program code means embodied in the computer usable medium for causing a computer to assign the TOS indicator based upon the packet characteristic” is anticipated by the classification of arriving packets by the packet classifier in Figure 2 based on header matching as spoken of on page 5, lines 14-19 of Nichols.

Regarding claim 16, “an article of manufacture for use in a computer system to discard a data packet” is anticipated by the Profile Meters shown in Figure 5.

“Computer readable program code means embodied in the computer usable medium for causing a computer to classify the data packet according to a type of service (TOS) indicator” is anticipated by the packet classifier shown in Figure 2 of Nichols.

“Computer readable program code means embodied in the computer usable medium for causing a computer to modify the data packet with an internal service class (ISC) indicator according to the TOS indicator” is anticipated by Markers 1-N shown in Figure 2 of Nichols. “Computer readable program code means embodied in the computer usable medium for causing a computer to modify the data packet with a watermark (WM) indicator according to the availability of a system resource” is anticipated by Markers 1-N shown in Figure 2 of Nichols. “Computer readable program code means

embodied in the computer usable medium for causing a computer to compare the ISC, WM and a drop preference (DP) indicator of the data packet to a committed information rate (CIR)" is anticipated by the Profile Meters shown in Figure 5 of Nichols. Lastly, "computer readable program code means embodied in the computer usable medium for causing a computer to discard the packet if the DP exceeds the CIR" is anticipated by the Profile Meters shown in Figure 5 of Nichols.

Regarding claim 17, "computer readable program code means embodied in the computer usable medium for causing a computer to concatenate the ISC, WM and the DP into a key value, computer readable program code means embodied in the computer usable medium for causing a computer to find an entry in a congestion clip table (CCT) using the key value, and computer readable program code means embodied in the computer usable medium for causing a computer to compare the entry to the CIR" is anticipated by the Profile Meters shown in Figure 5 of Nichols.

Regarding claim 18, "computer readable program code means embodied in the computer usable medium for causing a computer to analyze a field of the data packet to determine a packet characteristic and computer readable program code means embodied in the computer usable medium for causing a computer to assign the TOS indicator based upon the packet characteristic" is anticipated by the classification of arriving packets based on header matching as spoken of on page 5, lines 14-19 of Nichols.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Colley et al. (U.S. 6,650,644), Ellessen et al. (U.S. 6,459,682), Chapman et al. (U.S. 6,628,609), Haddock et al. (U.S. 6,104,700), and Galand et al. (U.S. 6,188,698) are all references that contain material pertinent to this application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Moore, Jr. whose telephone number is (571) 272-3168. The examiner can normally be reached on Monday-Friday (8:30am - 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached at (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael J. Moore, Jr.
Examiner
Art Unit 2666


FRANK DUONG
PRIMARY EXAMINER

mjm MM